AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the present application:

Claims 1-31 (**Canceled**)

32. **(Currently Amended)** A method for maintaining intact, restoring, and/or increasing the number of cellular mitochondria in an elderly subject, said method comprising:

chronically administering via oral route to an elderly subject a therapeutically effective amount of a composition comprising, as active ingredients, the following:

(i) branched chain amino acids leucine, isoleucine, valine, and/or ~~pharmaceutically acceptable derivatives~~ salts thereof;

(ii) lysine and threonine, or ~~and/or a pharmaceutically acceptable derivative~~ salts thereof; and

(iii) ~~at least one of:~~

~~(a) threonine or a pharmaceutically acceptable derivative thereof or~~

~~(b) one or more~~ the other essential amino acids ~~selected from the group consisting of~~ histidine, methionine, phenylalanine, and tryptophan, or ~~pharmaceutically acceptable derivatives~~ salts thereof,

wherein

the amount in moles of threonine is smaller than the individual amounts of lysine and of said branched amino acids, or salts thereof, but greater than the sum of the individual amounts in moles of said other essential amino acids, or salts thereof; and

the amount in moles of lysine is smaller than the individual amounts of said branched amino acids, or salts thereof, but greater than the sum of the individual amounts in moles of said other essential amino acids, or salts thereof,

whereby the number of cellular mitochondria in the elderly subject is maintained intact, restored, and/or increased.

33. **(Currently Amended)** The method according to Claim 32, wherein ~~the composition comprises leucine, isoleucine, valine, lysine, and threonine, wherein~~ isoleucine, valine, threonine, and lysine are present in the following molar ratios to leucine:

isoleucine/leucine having a molar ratio from 0.2 to 0.7;

valine/leucine having a molar ratio from 0.2 to 0.7;

threonine/leucine having a molar ratio from 0.15 to 0.50; and

lysine/leucine having a molar ratio from 0.15 to 0.60.

34. **(Currently Amended)** The method according to Claim 32, wherein ~~the composition comprises leucine, isoleucine, valine, lysine, threonine, histidine, methionine, phenylalanine, and tryptophan, wherein~~ the sum of the amounts in moles of histidine, methionine, phenylalanine, tryptophan, or ~~derivatives~~ salts thereof, is from 2% to 25% of the sum of the amount in moles of leucine, isoleucine, valine, lysine, and threonine, or ~~derivatives~~ salts thereof.

35. **(Currently Amended)** The method according to Claim 32, wherein the composition further comprises, as an active ingredient, at least one of tyrosine and cyst(e)ine, or ~~pharmaceutically acceptable derivatives~~ salts thereof.

36. **(Currently Amended)** The method according to Claim 32, wherein the composition further comprises tyrosine or a ~~pharmaceutically acceptable derivative~~ salt thereof, and wherein ~~the one or more other essential amino acid is phenylalanine or a pharmaceutically acceptable derivative thereof, so that~~ the amount in moles of tyrosine or ~~derivative~~ salt thereof is from 15% to 50% of the amount in moles of phenylalanine or ~~derivative~~ salt thereof.

37. **(Currently Amended)** The method according to Claim 32, wherein the composition further comprises cyst(e)ine or a ~~pharmaceutically acceptable derivative~~ salt thereof, and wherein ~~the one or more other essential amino acid is methionine or a pharmaceutically acceptable derivative thereof, so that~~ the amount in moles of cyst(e)ine or

~~derivative~~ salt thereof is at least equal to 100% of the amount in moles of methionine or ~~derivative~~ salt thereof.

38. **(Previously Presented)** The method according to Claim 35, wherein the composition further comprises both tyrosine and cyst(e)ine.

39. **(Currently Amended)** The method according to Claim 34, wherein the sum of the individual amounts in moles of threonine and lysine, or ~~derivatives~~ salts thereof, is smaller than the sum of the individual amounts in moles of said branched amino acids, or ~~derivatives~~ salts thereof, but greater than the sum of the individual amounts in moles of the said other essential amino acids, or ~~derivatives~~ salts thereof~~, envisaged in the composition~~.

40. **(Currently Amended)** The method according to Claim 34, wherein the amount in moles of threonine, or ~~derivative~~ salt thereof, is smaller than the individual amounts in moles of lysine and of said branched amino acids, or ~~derivatives~~ salts thereof, but greater than the individual amounts in moles of said other essential amino acids, or ~~derivatives~~ salts thereof~~, envisaged in the composition~~.

41. **(Currently Amended)** The method according to Claim 34, wherein the amount in moles of lysine, or ~~derivative~~ salt thereof, is smaller than individual amounts in moles of said branched amino acids, or ~~derivatives~~ salts thereof, but greater than the individual amounts in moles of said other essential amino acids, or ~~derivatives~~ salts thereof~~, envisaged in the composition~~.

42. **(Canceled)**

43. **(Currently Amended)** A method for the treatment of apoptosis of mitochondrial origin in a subject, said method comprising:

chronically administering via oral route to a subject a therapeutically effective amount of a composition comprising, as active ingredients, the following:

(i) the branched chain amino acids leucine, isoleucine, and valine, ~~or pharmaceutically acceptable derivatives~~ and/or salts thereof; [[,]]

(ii) lysine and threonine, or salts thereof; and

(iii) the other essential amino acids histidine, methionine, phenylalanine, and tryptophan, or salts thereof,

wherein

the amount in moles of threonine is smaller than the individual amounts of lysine and of said branched amino acids, or salts thereof, but greater than the sum of the individual amounts in moles of said other essential amino acids, or salts thereof; and

the amount in moles of lysine is smaller than the individual amounts of said branched amino acids, or salts thereof, but greater than the sum of the individual amounts in moles of said other essential amino acids, or salts thereof,

whereby the subject is treated for apoptosis of mitochondrial origin.

44. **(Canceled)**

45. **(Canceled)**

46. **(Currently Amended)** The method according to ~~Claim 45~~ Claim 43, wherein the composition further comprises, as an active ingredient, at least one of tyrosine and cyst(e)ine, or ~~pharmaceutically acceptable derivatives~~ salts thereof.

47. **(Canceled)**

48. **(Canceled)**

49. **(Currently Amended)** The method according to ~~Claim 48~~ Claim 43, wherein the composition comprises ~~further comprises~~ tyrosine and cyst(e)ine, or ~~pharmaceutically acceptable derivatives~~ salts thereof.

50. **(Currently Amended)** The method according to Claim 43, wherein ~~the composition comprises leucine, isoleucine, valine, lysine, and threonine, wherein~~ isoleucine, valine, threonine, and lysine are present in the following molar ratios to leucine:

isoleucine/leucine having a molar ratio from 0.2 to 0.7;

valine/leucine having a molar ratio from 0.2 to 0.7;

threonine/leucine having a molar ratio from 0.15 to 0.50; and

lysine/leucine having a molar ratio from 0.15 to 0.60.

51. **(Currently Amended)** The method according to Claim 43, wherein ~~the composition comprises leucine, isoleucine, valine, lysine, threonine, histidine, methionine, phenylalanine, and tryptophan, wherein~~ the sum of the amounts in moles of histidine, methionine, phenylalanine, tryptophan, or ~~derivatives~~ salts thereof, is from 2% to 25% of the sum of the amount in moles of leucine, isoleucine, valine, lysine, and threonine, or ~~derivatives~~ salts thereof.

52. **(Currently Amended)** The method according to ~~Claim 45~~ Claim 43, wherein the sum of the individual amounts in moles of threonine and lysine, or ~~derivatives~~ salts thereof, is smaller than the sum of the individual amounts in moles of said branched amino acids, or ~~derivatives~~ salts thereof, but greater than the sum of the individual amounts in moles of the said other essential amino acids, or ~~derivatives~~ salts thereof~~, envisaged in the composition~~.

53. **(Canceled)**